U.S. DEPARTMENT OF COMMERCE
National Technical Information Service
PB80-104078

National Register Evaluation of Village Site 39BK7, Oakwood Lakes State Park, Brookings County, Eastern South Dakota

Archeological Services, Laramie, WY

Prepared for

Environmental Protection Agency, Denver, CO Region VIII

May 79

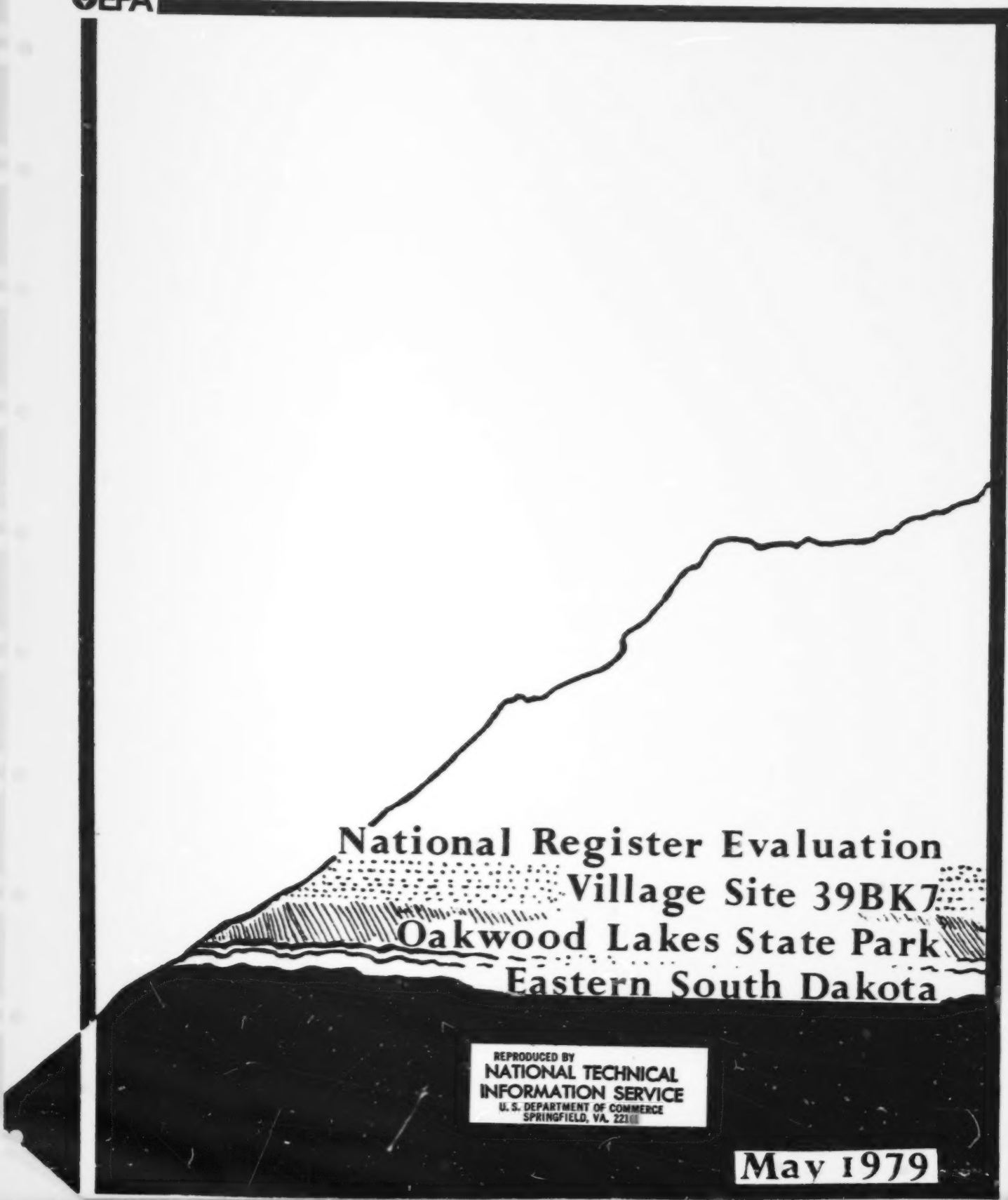
United States
Environmental Protection
Agency

Region 8
7960 Lincoln Street
Denver, Colorado 80295

EPA-908/3-79-003

PB80-104078

EPA



National Register Evaluation
Village Site 39BK7
Oakwood Lakes State Park
Eastern South Dakota

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May 1979

TECHNICAL REPORT DATA *(Please read Instructions on the reverse before completing)*		
1. REPORT NO. EPA-908/3-79-003	2.	3. RECIPIENT'S ACCESSION NO. PB80-104078
4. TITLE AND SUBTITLE National Register Evaluation of Village Site 39BK7 Oakwood Lakes State Park, Brookings County, Eastern, South Dakota		5. REPORT DATE May 1979 6. PERFORMING ORGANIZATION CODE
7. AUTHOR(S) John W. Greer		8. PERFORMING ORGANIZATION REPORT NO.
9. PERFORMING ORGANIZATION NAME AND ADDRESS Archeological Services P.O. Box 1188 Laramie, Wyoming 82070		10. PROGRAM ELEMENT NO. 11. CONTRACT/GRANT NO. WO-8-0611-A
12. SPONSORING AGENCY NAME AND ADDRESS Environmental Protection Agency 1860 Lincoln Street Denver, Colorado		13. TYPE OF REPORT AND PERIOD COVERED Final 14. SPONSORING AGENCY CODE
15. SUPPLEMENTARY NOTES		

16. ABSTRACT

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17. KEY WORDS AND DOCUMENT ANALYSIS		
a. DESCRIPTORS	b. IDENTIFIERS/OPEN ENDED TERMS	c. COSATI Field/Group
Oakwood Lakes Archeology Woodland Great Oasis	Clean Lakes Archeology Natural Register	
18. DISTRIBUTION STATEMENT Distribution Unlimited	19. SECURITY CLASS *(This Report)* Unclassified 20. SECURITY CLASS *(This page)* Unclarrified	21. NO. OF PAGES 59 22. PRICE A04 - A01

EPA Form 2220-1 (Rev. 4-77) PREVIOUS EDITION IS OBSOLETE

EPA-908/3-79-003

NATIONAL REGISTER EVALUATION OF VILLAGE SITE 39BK7, OAKWOOD LAKES STATE PARK, BROOKINGS COUNTY, EASTERN SOUTH DAKOTA

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Environmental Protection Agency
Denver, Colorado

Purchase Order #WO-8-0611-A

May 1979

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ABSTRACT

In October 1978 Archeological Services performed a National Register evaluation of site 39BK7 in Brookings County, South Dakota. This was done for the Environmental Protection Agency in their Oakwood Lakes Bank Stabilization Project, which will affect a small portion of the archeological village. The site is believed to be significant and eligible for the National Register. Minimal exploratory archeological work is recommended in the direct impact zone before construction begins; other areas of the site should be avoided.

INTRODUCTION

The Environmental Protection Agency in Denver, Colorado, requested a formal test of archeological site 39BK7 in Brookings County, South Dakota, to assess its significance and determine its eligibility for the National Register of Historic Places. This included (1) a review of the existing literature and records pertaining to the site, (2) testing of the site sufficient to determine its eligibility for the National Register, (3) analysis of the data collected, and (4) compilation of all data into a project report.

Fieldwork was conducted by Archeological Services, P.O. Box 1188, Laramie, Wyoming 82070, in October 1978. During this time the weather was cool and dry, with strong west winds, making field conditions quite cold. The soil

was relatively dry and easily screened. Surface ground visibility overall was generally poor (est. 1-5%), except in bare vehicle trails, where it was 80-100%. Numerous rodent burrows over nearly the entire site area gave an excellent indication of the distribution of cultural debris from their back dirt piles. Analysis of artifacts and other collected materials was carried out in October and November 1978.

John Greer, Director of Archeological Services, served as principal investigator and directed field operations. Members of the field and laboratory staff include David Eckles, JoDee Eckles, and Mavis Loscheider. David and JoDee Eckles analyzed the artifacts and faunal remains and prepared the preliminary manuscript text and figures for the project. In all, 12 person-days were spent on location in the field, and 25 person-days were spent in analysis and initial preparation of the report. Additional time was spent in project planning, field preparation, travel, and other miscellaneous duties pertaining to the project.

DESCRIPTION OF THE AREA

The site is located in the SW/NW 8-T111N-R51W, Brookings County, South Dakota (Fig. 1), atop a small bluff which rises about 20-30 feet above the present level of Lake Tetonkaha. The site occupies the area from the bluff east to a marshy area between Lake Tetonkaha and Oakwood Lake, north to Round Lake, and south to a marshy area of Lake Tetonkaha. The site covers an area approximately 1200 x 1300 ft or approximately the 40 acres lying between the three lakes and surrounded by marshland (Fig. 2).

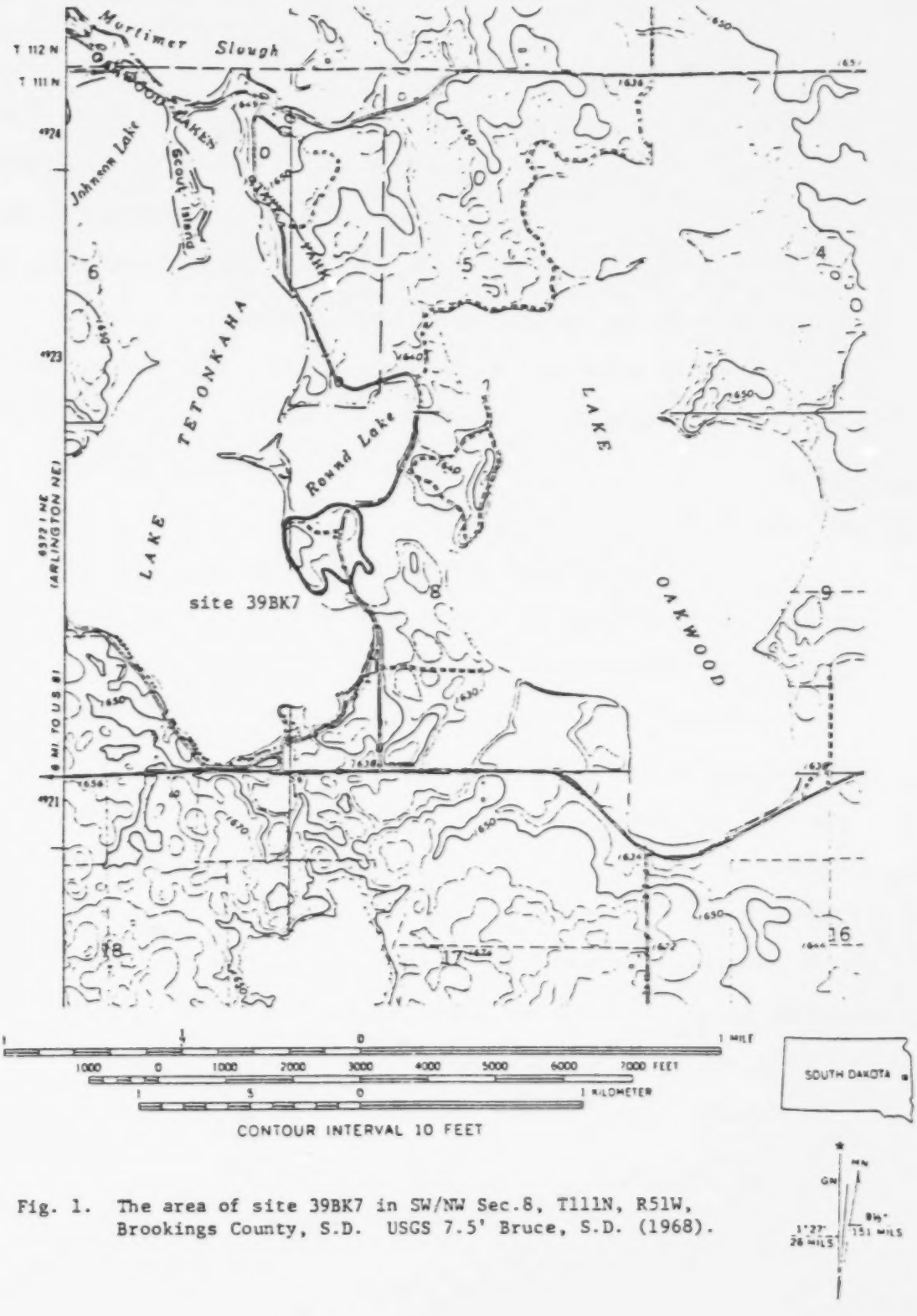

Fig. 1. The area of site 39BK7 in SW/NW Sec.8, T111N, R51W, Brookings County, S.D. USGS 7.5' Bruce, S.D. (1968).

The northern third and western half of the site are covered with a dense growth of tall prairie grasses (Fig. 8,a). The remainder of the site is a thick growth of planted cedar and other trees. Several stands of hardwoods also dot the area. Dense stands of cattail are present along the lake shores.

Soils of this area consist of a dark, rich humus topsoil which extends to a depth of 50 cm. Below this is a compact yellow sandy soil, in the lower section of which caliche has begun to form. All cultural materials were found throughout the dark humus soil zone, with greatest concentration just above the base of the zone. Lithology of the site area is one of glacial shales and gravels.

Several permanent water sources occur in the site area. Lake Tetonkaha, Oakwood Lake, Round Lake, and Mortimer Slough are all glacially formed lakes adjacent to the raised site area.

Mammalian fauna of the site area in prehistoric times would have included bison, antelope, elk, deer, beaver, bobcat, coyote, fox, raccoon, gopher, squirrel, porcupine, prairie dog, cottontail, jackrabbit, skunk, wolf, and various small rodents. Many of these species still inhabit the area (Lehmer 1971: 55).

Waterfowl are still numerous in the area; in fact, the site area is on one of the major flyways for migratory waterfowl. Several species of fish occur in the area, as well as amphibians, reptiles, and species of freshwater mussels.

DESCRIPTION OF THE SITE

The site covers an elevated area surrounded by glacial lakes and low marshland (Fig. 2). Its eastern portion is crossed by a paved park road, which has caused considerable damage to the adjacent cultural deposits. Also adjacent to the road is the partially disturbed remains of what appears to be a large, culturally constructed earthen mound, about 50-80 ft in diameter and 5-8 ft tall (exact dimensions are impossible because of the disturbed nature and because it is placed on a secondary raised area, giving it added size).

Part of the site is now in tall prairie grasses, with concentrated rodent activity. In these rodent burrowings can be found numerous bison bones from the prehistoric occupation of the site. Other portions of the hill area are in dense trees (mainly cedar) and undergrowth, making passage difficult. In the few areas of subsurface disturbance (mainly rodent burrowing) there is, without exception, evidence of prehistoric cultural use, almost invariably indicated by bison bone fragments. The site is also crossed by a series of vehicle trails, all of which contain cultural debris.

The western side of the site is composed of a high, eroded bank overlooking Lake Tetonkaha. Cultural materials can be seen in the lake shore bank and in the numerous vehicle trails. In addition, local collectors and archeologists familiar with the site state that house depressions can be seen in the grassy area at certain times of the year.

The purpose of the present phase of work was to more fully evaluate the site and better determine its descriptive features and contents. The remainder of this report deals with further description of the site.

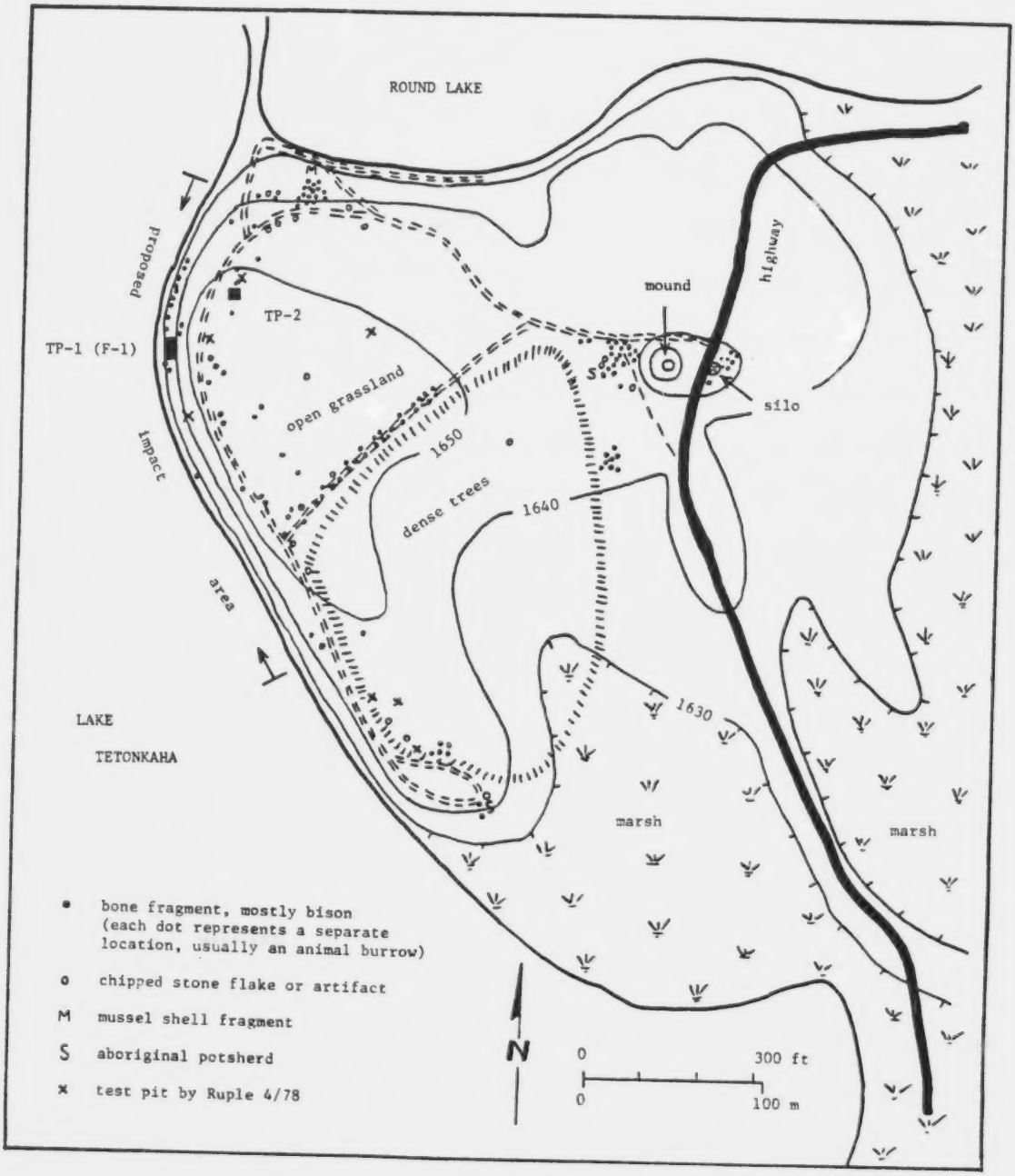

Fig. 2. Site 39BK7, showing observed surface indications.

HISTORY OF THE SITE

Site 39BK7 has a fairly long history which has been pieced together from several informants (especially Lyle Cheever, Kenneth Hammer, Adrian Hannus) and minimal field work. This section outlines what is known of the site.

The site apparently was first occupied during the early part of the Late Period, presumably in what is known as the Great Oasis phase. A buried zone in the site appears to be the most concentrated occupational debris dating to prehistoric times and is composed of bison bones, lithic tools and debris, and other by-products of a village situation. Materials are also scattered throughout the deposits and at least in the past were abundant across the surface of the site. From projectile points, it appears that more than one occupational period is represented here, and likely the site was also occupied in protohistoric times. The age of the large mound on the east side of the site is unknown.

The site was then occupied in Historic times, at least as early as the late 1800's. Lyle Cheever reports that during that period there was an old farmhouse in the saddle in the southeastern part of the site near the present paved park road. Old ceramics and glass in the northwest and southwest parts of the site might also date from this time, suggesting that there might have been early structures in those areas also, but no record of them has been found.

In the 1920's and early 30's there was a north-south row of six summer or recreational cabins near the west side of the site and overlooking Lake Tetonkaha. Apparently there were stones associated with them, as outlines, decorations, or parts of their foundations. During this time and prior

to it, the whole hill was covered with trees. During the Depression in the 1930's, however, there was a severe drought, Lake Tetonkaha dried up, most of the trees died, and the cabins were abandoned. Since then, nearly all remains of the cabins have been removed, leaving only scattered bits of historic material, such as metal fragments, broken glass, and historic ceramics. Much of the northern and eastern portions of the hill are now in tall prairie grass, although the dense tree growth appears to be spreading back again. Either during the period of the cabins, or sometime thereafter (said to have been in the 1940's or 50's), several "fir" trees were planted on the hilltop; these are still present.

Construction has also taken its toll on the site. A silo has been dug into the raised area just east of the mound and on the east side of the road (Fig. 2). Construction of the park road, now paved, removed part of the eastern side of the mound and adjacent cultural deposits. During this road work, first in about 1947 and then again in 1974, a bulldozer removed part of the mound and about 1 ft of dark topsoil (the cultural deposits) on the north side of the mound for road fill. A bulldozer cut was also made on the west side of the mound, where there was an old dirt road; that is now abandoned. The operator noted bones in the disturbed deposits. A small gravel pit also existed on the south side of Round Lake, essentially just outside the northeast edge of what is believed to be the site boundary.

The site area has long been the focal point of artifact collectors, both as devoted relic hunters and as interested local persons. In recent years, Lyle Cheever, a concerned local amateur archeologist and collector, has kept his eye on the site in a protective manner, and it is his concern with preservation of the local cultural values which has directly led to

the present work. Steve Ruple of the Historical Preservation Center, office of the State Historic Preservation Officer, performed the initial professional survey of the area and recorded the site. These investigations will be summarized in the following section.

PREVIOUS INVESTIGATIONS

Over the years, the site has received considerable attention, albeit mostly from artifact collectors. We are lucky to have made contact with two of these concerned persons: Lyle Cheever and Kenneth Hammer. Other persons who have visited the site include Adrian Hannus (local archeologist) and Steve Ruple (office of the State Historical Preservation Officer).

The Archeological Literature

The available professional literature was reviewed for references to previous work in the area of the site. As is discussed below, Sigstad and Sigstad (1973) mention Dr. Over's early work in the general area of the Oakwood Lakes Park, although he did not specifically report on site 39BK7. Over's early work showed that the area was greatly utilized by late prehistoric peoples who apparently were settled into small villages and buried their dead in large, but low circular mounds.

Other works specifically dealing with eastern South Dakota and western Minnesota, with Middle Missouri cultural developments and trade patterns, and with Woodland and Great Oasis investigations and syntheses, and more general works providing synthesis statements on the area as a whole, were reviewed for information directly useful to the problems of

previous investigations at this site or information crucial for the problem at hand -- the determination of National Register eligibility or potential importance of site 39BK7. While such literature was informative for an understanding of regional problems, its synthesis is not necessary to accomplish the present investigations or evaluation, and therefore is not included here.

Dr. W. H. Over

The earliest record of an archeologist doing work in the area is that of Dr. Over, local historian interested in the archeological cultures of his area. In 1902 he visited several sites in the area and partially excavated a mound just southeast of Lake Tetonkaha. He was undoubtedly aware of site 39BK7, but his field notes do not specifically refer to the site (Sigstad and Sigstad 1973).

Kenneth Hammer

Hammer is an informed collector and one who is intimately knowledgeable of the Oakwood Lakes area; he is presently professor of Economics at the University of Wisconsin-Whitewater. Hammer grew up in the Oakwood area and has long known of and collected from the site. A small group of artifacts which he picked up last spring on 39BK7 was examined and recorded during this field season; those are described in Table 1 (also Fig. 3, a-e). Particularly noteworthy are the tiny end scrapers of Knife River Flint (KRF), the small spokeshave, and the relatively large amount of pottery. In addition, Hammer reports the following materials from the site mainly from vehicle trails,

animal burrowings, or the western cutbank:

1. A full-grooved stone hammer was found in the western bank in the vicinity of Feature 1. It is of rough granite-like material (greenstone?), is about 7 inches long and 7 inches in diameter, well smoothed, with one end and one side flattened. It weighs about 8 pounds.
2. A large stone knife was found on the shoreline, apparently just below Feature 1.
3. The distal halves of two identical gray stone polished celts were found on the hilltop, presumably near the western bank or nearer the mound. These are circular in cross section and have bits about 2 inches wide; if complete they would be about 7 inches long (both fragments are about 4 inches long).
4. His aunts, who lived on or near the site in about 1900-1920, described finding "shoe boxes full of arrowheads" before the site was so well picked over. Hammer reports that he has collected innumerable artifacts from the site over the last 20 years or so.

In addition to the artifactual information which Hammer has supplied, he states that for years one has been able to see several localized changes in the grass which indicate the locations of earth lodges. These are mainly visible toward the silo; one is about 100 ft west of the mound, or adjacent to the concentration of bone fragments and debitage recorded during the present investigations. Adrian Hannus has also reported seeing vegetational changes in apparently very slightly depressed areas, indicative of small earth lodges.

Lyle Cheever

Cheever is a retired judge in Brookings and an avid collector and protector of the archeological information in his area. He has a small collection from the site; this was observed and recorded during the present season (Table 2; Fig. 3, f-i). Cheever also has knowledge of the site area, since he has been familiar with the site and has collected from it for several years.

Steven Ruple

When the site was threatened with partial destruction by the proposed project, Judge Cheever intervened as a concerned citizen, pointing out the need to adequately record, and thereby preserve, any information in danger of being lost due to federal action. Steve Ruple, Historical Preservation Center of the office of the State Historical Preservation Officer, performed the initial survey of the various sites to be affected by the proposed construction. At that time (April 1978), assisted by six students from the University of South Dakota, where he also teaches, Ruple recorded the site (his Area #1) and excavated seven half-meter test pits across the western portion of the site to determine its structure and content and provide a tentative evaluation of the site's significance. He also made a series of 6-inch auger tests between his test pits and the western edge of the site. All tests contained cultural material (Table 3; Fig. 3, j-o), indicating that the site area is rather large, the deposits are at least 50 cm thick, and

there is good probability of National Register significance and a potential to contribute additional useful information. At that point, Ruple informed EPA that a full National Register evaluation was warranted, and the present study is the result of that recommendation. Ruple is preparing a detailed report on his survey and evaluative testing; some of those results are included in this report, with Ruple's permission.

THE 1978 A.S. INVESTIGATIONS

The Environmental Protection Agency requested that A.S. revisit the site in order to fully evaluate the site's potential for National Regional eligibility. The following subsections describe that field work. In summary, a detailed site map was made showing the distribution of cultural materials visible on the surface, two test pits were excavated, and Feature 1 (bison remains) was excavated. These investigations, together with the previous work at the site, are considered adequate and sufficient to complete the requirements of the contract, and to fully evaluate the site's significance.

Artifacts from surface collections and test pits are listed in Table 4 (also Figs. 2 and 3, p-q). The majority of cultural remains are bones from bison and flakes of cherts and quartzites. Several other animal bones were found: deer, squirrel, gopher, an owl-sized bird, several frogs, a small to medium-sized fish, and freshwater mussels. In all, 139 flakes, 2 scrapers, 2 projectile points, 2 cores, and one piece of raw material were found. Several small pieces of pottery were also found, all body sherds.

Table 1. Materials collected from 39BK7 by Kenneth Hammer.

Aboriginal pottery:

35 small plain body sherds; gray, moderately fine paste with quartz sand temper.

3 cord-warped-paddle body sherds (ca. 3-4 mm between cords), partially smoothed over.

1 orange sherd, ca. 7 mm thick, fine paste with profuse extremely fine sand temper and some larger quartz sand; different from any other pottery from the site.

Bones:

5 bison teeth (young).

Stone tools:

7 small, extremely thin end scrapers of KRF (Fig. 3, a-d); at least 4 resharpened many times and probably discarded as nonfunctional (ca. 10 mm long, 15-18 mm wide). Some have been reworked until lateral margin has become the primary worked edge. Undoubtedly hafted.

1 small, extremely thin end scraper of gray chert, flaking on ventral face.

1 thin biface tip of white quartzite.

1 small thin biface fragment of KRF.

1 very thin (ca. 2.5 mm) flake with one lateral edge notched into a wide, hooked spokeshave (Fig. 3, e).

Reported (see text for description):

1 full-groove maul.

2 polished celts.

1 large chipped stone knife.

- numerous projectile points.

Table 2. Materials collected from 39BK7 by Lyle Cheever.

Aboriginal pottery:

1 plain body sherd.

1 cord-marked-paddle body sherd (3-4 mm between cords).

Flakes:

4 Knife River Flint (KRF) interior flakes.

1 KRF biface thinning flake.

Stone tools:

1 small KRF end scraper (Fig. 3,f).

1 small KRF flake with bifacial lateral retouch (Fig. 3,g), assymetrical silica gloss on at least one face and over the flake scars--probably used as blade-like inset into wooden sickle.

1 small corner-notched dart point (Fig. 3,h), from the E side of the bone concentration about 300 ft NE of Feature 1; made of gray chert.

1 small corner-notched arrowpoint (Fig. 3,i), from the center of the open flat ESE of Feature 1; made of light yellowish chert.

Table 3. Materials collected from 39BK7 by Steve Ruple.

Provenience	Number	Description	Material
Gen. Surf.	1	small side-notched dart point (Fig. 3,k); ground basal edge and corners; hint of alternate bevelling on left stem edge. 31 x 16 mm	white chert
	1	thin biface edge frag.	white chert
	1	bifacially edge-retouched large flake frag., frag. 40 x 40 x 8 mm	yellow quartzite
	1	bifacially edge-retouched large flake. 50 x 40 x 8 mm	red quartzite
	1	thin biface frag. (proj. pt. ?). 30 x 25 mm	red-yellow quartzite
	1	crude end scraper on cortex flake (Fig. 3,j). 30 x 25 mm	gray chert
	1	small edge-retouched flake. 10 x 20 mm	KRF?
	2	whitepaste earthenware (Historic), one bowl frag., one yellow decalware with floral design.	
	1	aboriginal sherd; very fine-grained paste with gray core, quartz sand temper, light orange-brown interior and exterior, suggestion of lightly brushed exterior. 20 x 15 x 5 mm	
	70	assorted flakes	chert, quartzite, quartz, translucent grayish chalcedony
	21	unburned bone frags.	
	2	burned bone frags.	
	2	large bison bones from Feature 1 profile.	

Table 3 (cont., 2)

Provenience	Number	Description	Material
TP#10	1	interior flake. 20 x 15 mm	gray chert, burned
	1	interior flake. 10 x 15 mm	pink chert
TP#11	1	sm. sherd, quartz sand temper, fine-grained. 20 x 20 mm	aboriginal
	2	exterior flakes: 20 x 30 mm 15 x 30 mm	gray chert red quartzite
	3	interior flakes: 15 x 30 mm 10 x 20 mm 10 x 20 mm	red quartzite white agate? gray chert
	1	small bone frag.	bison?
	1	mussel shell frag. 10 x 20 mm	
	1	charcoal frag. 5 x 10 mm	wood
TP#12	1	sm. pebble frag. (Fig. 3,1), one end very battered, as if to remove flakes (bipolar). Striking angle etc. looks remarkably like gun flint, but form not right. 16 x 22 mm	nearly clear, translucent chalcedony (?)
	1	interior flake. 30 x 40 mm	pink-orange quartzite
	2	shatter?	gray chert
	1	bison tooth frag.	
TP#13	3	interior flakes: 10 x 10 mm 10 x 10 mm 15 x 35 mm	red quartzite translucent white chert white quartzite
	3	burned shatter. 10 x 10 mm	white chert
TP#14	1	utilized biface basal fragment, crude (Fig. 3,m). 25 x 30 mm (frag.).	white quartzite
	1	interior flake (core reduction). 25 x 40 mm	KRF

Table 3 (cont., 3)

Provenience	Number	Description	Material
	1	interior flake. 10 x 10 mm	red quartzite
	1	burned shatter. 20 x 40 mm	pink quartzite
	2	long bone frags.	bison
TP#15	1	burned chunk. 50 x 50 mm	granite
	3	bone frags.	bison
TP#16	1	sm. dart point stem (Fig. 3,o); stem edges have hint of alternate beveling on left side; basal width 18 mm	white oolitic chert
	1	sm. end scraper (Fig. 3,n). 20 x 25 mm	KRF?
	1	sherd; very fine-grained paste with gray core, quartz sand temper, light orange-brown interior and exterior, suggestion of lightly brushed interior. 15 x 20 x 5 mm	aboriginal
	1	secondary flake. 25 x 35 mm	greenish-gray chert
	3	interior flakes: 5 x 10 mm 10 x 10 mm 20 x 40 mm	white chert gray chert agatized petrif. wood or light tan chert
	1	shatter. 30 x 30 mm	white quartz

Table 4: Artifacts Recovered from 39BK7 by Provenience

Provenience	Bone	Shell	Lithic	Pottery
Surface	Bison bison: Tibia, distal frag. Long bone fragments (9) Patella Vertabra fragments (5) Bone scrap (considerable) Metapodial frag. 2nd phalange Carpal/tarsal (3) cf. Odocoileus: Molar	Mussel: 1 frag.	2 Scrapers: 1 KRF 1 red quartzite Flakes: 2 primary 1 cream chert 1 red quartzite 6 interior 4 KRF 2 gray quartzite	2 plain body sherds, sand temper
Profile cut back (North of F1)	Bison bison: Skull frag. Left humerus, distal frag. Left tibia, distal frag. Patella Long bone fragments (10) Rib fragments (5) Bone scrap		Core: 1 brown quartzite Flakes: 5 primary 4 red/tan quartzite 1 petrified wood 11 interior 8 tan (red/gray) quartzite 1 tan chert 2 basalt	Plain body sherd, sand temper
Test Pit 1 (0-15 cm)	Bison (?): Bone scrap	Mussel: 5 fragments	Flakes: 11 interior 6 quartzite 4 KRF 1 basalt	

Table 4 (cont., 2)

Provenience	Bone	Shell	Lithic	Pottery
Test Pit 1 (15-30 cm)	Bison bison: Bone scrap Large mammal: Bone scrap, charred Rib fragments Aves (owl sized): Tibiatarsus		Arrowpoint, Knife River chert broken, resharpened Late Prehistoric (Fig.3,p) Core, KRF Flakes: 3 primary 2 KRF 1 red quartzite 22 interior 11 KRF 11 quartzite	Plain body sherd, sand temper
Test Pit 1 (30-45 cm)	Bison bison: Skull fragments Molar fragments Incisor frag. Scapula frag. Long bone fragments (4) Long bone flake Rib fragments (2) Bone flake - rib frag. Bone scrap (some charred) 2nd phalange Rana sp.: Tibia-fibula Radius-ulna Vertabrae Ascetabulum Scapula Femur Humerus		Flakes: 1 primary, basalt 4 secondary 3 KRF 1 basalt 16 interior 6 KRF 9 quartzite 1 basalt	

Table 4 (cont., 3)

Provenience	Bone	Shell	Lithic	Pottery
Test Pit 1 (45-60 cm)	Bison bison: Long bone frags (3) Rib fragments (2) Epithysis Carpal/tarsal (2) Bone scrap (some charred)		Arrowpoint white/gray quartzite Late Prehistoric (Fig. 3,q) Flakes: 2 primary 1 KRF 1 quartzite 5 interior 1 KRF 4 quartzite	
Test Pit 1 (60-75 cm)	Bison bison: Rib frags (2 with butchering marks)			
Test Pit 1 Feature 1 (0-15 cm)	Bison bison: Bone scrap Small mammal: radius	Mussel frags (2)	Flakes: 1 secondary, KRF 1 interior, quartzite	
Test Pit 1 Feature 1 (15-35 cm)	Bison bison: Long Bone frag Molar frag. (2) Thoracic vertabra frag. (3) Rib frags. (8) Costal cartilage frags. (2) Sternum frag. Epiphysis Hyoid frag. 2nd phalange 3rd phalange Carpal/tarsal Sesmoids (3) Bone flakes (6)	Mussel frags (6)	Flakes: 2 primary, quartzite 3 secondary, KRF 9 interior 5 quartzite 2 basalt 2 baked shale	

Table 4 (cont., 4)

Provenience	Bone	Shell	Lithic	Pottery
Test Pit 1 Feature 1 (15-35 cm) continued	Large mammal: Thoracic vertabra frag. Geomys sp.: Maxilla fragment Sciurus sp.: Femur Radius Rana sp.: Ascetabulum Pisces (small to medium sized fish): Operculum Skull fragment			
Test Pit 1 Feature 1 (35-70 cm)	Rana sp.: Tibia-fibula Radius-ulna Vertabrae Ascetabulum Scapula Femur Humerus	Mussel fragment	Knife River chert cobble Flakes: 1 primary, KRF 2 secondary, KRF 13 interior 6 KRF 1 chert 6 quartzite	
Test Pit 1 Feature 1 (50-80 cm)	Bison bison:(remains of almost entire skeleton) Tibiae Ulnae Radius, R Scapulae Patella Axis Atlas 5 cervical vertabra 12 thoracic vertabra			

Table 4 (cont., 5)

Provenience	Bone	Shell	Lithic	Pottery
Test Pit 1 Feature 1 (50-80 cm) continued	Bison bison (remains of almost entire skeleton, continued): 1 lumbar vertebra 2 caudal vertebra Mandibles 2 upper molars 5 incisors Hyoid 1st phalange 3rd phalange 10 epiphysis 2 sesmoids 22 ribs Rib fragments (44) 21 costal cartilage			
Test Pit 1 NE corner Feature 1 (60-75 cm)	Bison bison: Long bone frags. (2) Carpal/tarsal Bone scrap		Flakes: 1 primary, quartzite 1 interior, KRF	
Test Pit 2 (20-40 cm)	Bison bison: Sesmoid Rib frag. Bone scrap		Flakes: 5 interior 3 quartzite 2 basalt	
Test Pit 2 (40-50 cm)	Large mammal: Long bone frag. Epiphysus Bone scrap Sciurus sp.: Femur		Flakes: 1 primary, quartzite 11 interior: 3 KRF 7 quartzite 1 basalt	Plain body sherd, sand temper

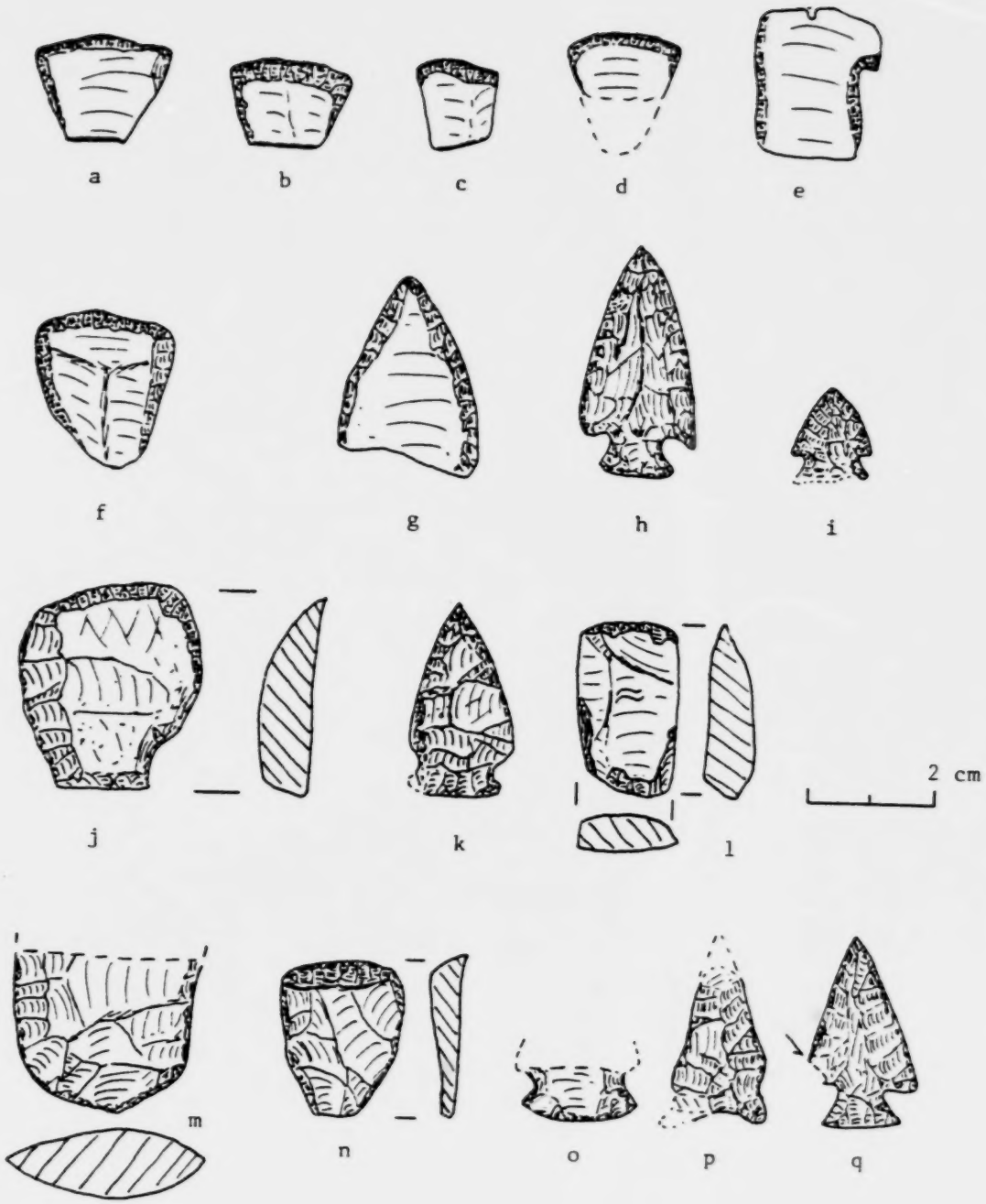

Fig. 3. Artifacts from 39BK7. a-e, Hammer coll.; f-i, Cheever coll. (g, sickle inset flake); j-o, Ruple coll. (j-k, gen. surf.; l, TP#12; m, TP#14; n-o, TP#16); p-q, A.S. coll. (p, TP#1, 15-30 cm; q, TP#1, 45-60 cm).

Only a few fragments of bison bone show clear butchering marks; no obviously butchered bone was found in Featurel, however. Only a few bone scraps were charred. Some bones of bison and other large mammals appeared to have been intentionally split or battered, and several bone flakes were found. Several bones and bone fragments show signs of carnivore and rodent gnawing.

Although the diversity of stone tool types found during this visit seems low, there is a higher diversity of stone material types. Lithic materials found in test pits and on the surface include Knife River Flint (34.2%), various quartzites (55.0%), basalt (7.4%), and other cherts, petrified wood, etc. (3.4%).

At this time it is not possible to ascertain cultural affiliation of the site. Steve Ruple (personal communication 1978) believes that the pottery from the site (all undecorated) is similar to Great Oasis Plain (cf. Wilford ms.). He has also found a rim sherd tentatively classified as Great Oasis Incised (with the typical superimposed groups of parallel lines) at an adjacent site (his Cedar Grove #1 site). One very small body sherd from site 39BK7 contains what appear to be cord-wrapped paddle markings which have been almost entirely smoothed over. This could as easily indicate affiliation with other Woodland period ceramic groups. Since the ceramics observed at 39BK7 are not diagnostic of any one particular classificatory group, it is impossible to designate cultural affiliation at this time.

The projectile points from the site are Late Prehistoric Period types, but given the paucity of published material on this region and the lack of

specific temporal data (Wilford ms.), designation of specific type-culture-age of these artifacts is not yet possible. Dates from the occupation of the site must await C14 or TL dating analyses, although the site is believed to date within the A.D. (1000-1400) range (probably 1100-1350, as a guess).

Determining Horizontal Extent and Complexity

The entire site area was intensively inspected, and a large scale sketch map was made, using the USGS quad as a base map, on which cultural features, artifacts, and other site characteristics were plotted (Fig. 2). In the search for surface debris, special attention was paid to exposed areas and animal burrowings. Shovel tests were periodically made to determine site boundaries.

Cultural materials were found across nearly the entire raised area, and therefore it is determined that the site covers approximately 40 acres and is bordered by lakes and marshland (the 1630' contour). In addition, cultural materials were most often in concentrations, indicative of horizontal differences within the camp-village area, or definable activity areas. Extent and complexity are discussed in another section on National Register evaluation.

Determining Vertical Extent, Complexity, and Integrity

Two test pits were excavated on the western edge of the area to be directly affected by construction. These were excavated in 10 and 15 cm levels, all deposits were screened through 1/4-inch screens, and all cultural materials were saved. They have now been cleaned and placed in properly labeled containers; they will be permanently stored at the South

Dakota Archaeological Research Center. Soil samples for pollen analysis (for both environmental and possible cultigen data), burned rock and pottery samples (for thermoluminescence dating), and flake samples for introduced material analysis were also collected. These materials will be available for future analyses, if desired.

Test Pit 1 (TP#1) was a 2 x 2 meter square, placed directly above Feature 1, a possible pit with parts of bison exposed in the bluff face. The purpose of TP#1 was two fold: (1) excavate Feature 1, and (2) test the surrounding deposits for cultural information necessary to evaluate National Register criteria. TP#1 was excavated to a depth of 75 cm from the surface, and an attempt was made to delineate the Feature 1 pit from above. After location of the pit boundaries, the pit was excavated, with emphasis on cleaning off the bison bones in order to understand the nature of the feature (Feature 1 is described in a later section). The surrounding deposits were clearly cultural and contained the remains of camp or village debris--bones, chipped stone, tools, and other debris.

Test Pit 2 (TP#2) was a 1 x 1 meter square located about 100 ft northeast of TP#1. This was excavated to a depth of 50 cm, at which depth the layer of yellow sand was encountered. Another 20 cm was excavated into the yellow sand to test for cultural remains, but that layer was found to be clearly sterile. Both test pits were backfilled to their original condition.

In addition to the test pits, a long portion of the western exposed bank was scraped back a few centimeters to expose a clean profile showing the stratigraphic separations and the distribution of cultural material (Figs. 4 and 8, b). The locations of cultural debris were flagged and photographed; a profile of this section was also drawn.

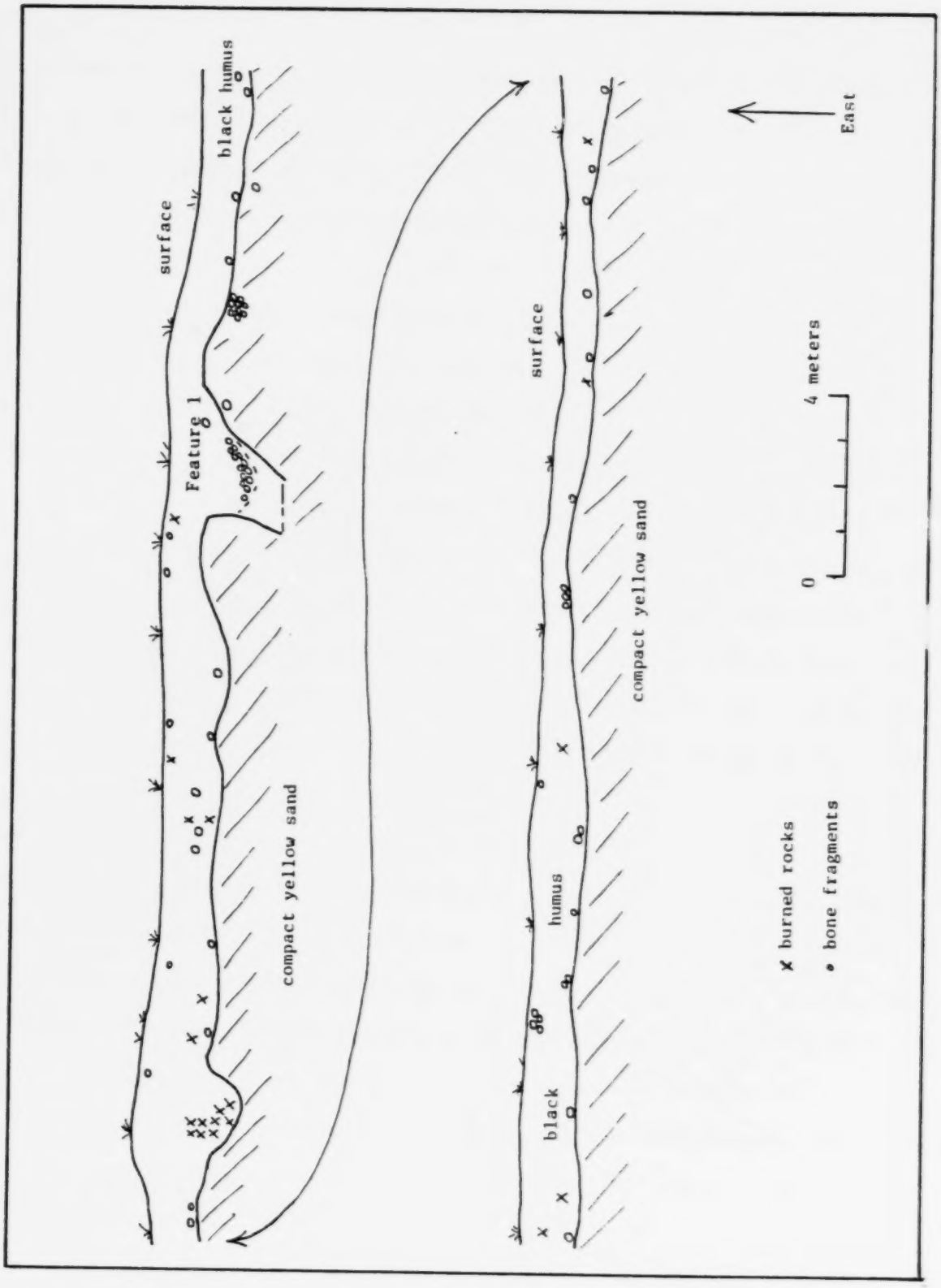

Fig. 4. Profile of portion of exposed western bank, including Feature 1.

All subsurface testing clearly showed that cultural materials were sparsely distributed throughout the dark humus zone. The highest density, however, occurs at about 30-50 cm below the surface, or in the lower 10-20 cm of the dark humus zone. Within this, especially evident in the profiled bank and TP#2, the most obvious layer of bones and stone artifacts occurs just above the yellow sand layer at 44-48 cm deep.

In other words, the cultural materials at the site are in the upper 2 ft of deposits, or are limited to the brown humus zone. This appears to be the case across much of the site. Obviously the mound would contain thicker deposits. There is some vertical complexity in that at least one definable, buried cultural layer is evident from the tests; other materials are scattered throughout the remaining deposits. Good integrity is evidenced by the remaining undisturbed cultural deposits, as well as reports that the main part of the site has never been plowed or otherwise significantly disturbed. In place cultural features, such as Feature 1 and the reported house depressions, indicate additional vertical complexity and general site integrity. These points are discussed in a later section on National Register evaluation.

Excavation of Feature 1

During Ruple's initial survey of the site in April, 1978, a group of bison bones was noted in the exposed bank overlooking Lake Tetonkaha. These were labeled Feature 1. Following EPA contractual stipulations, this feature was totally excavated during the field work recorded here.

This feature was clearly visible in the cleaned cut bank profile as a steep-sided pit containing the partially articulated remains of a bison (Figs. 5-9). Test Pit 1 (TP#1) was a 2 x 2 meter square placed above Feature 1 in such a way that the entire feature would be included within TP#1, and the test pit would additionally serve to sample adjacent, undisturbed cultural deposits for vertical extent, complexity, integrity, and general content. The pit was excavated in quarter units in 10 and 15 cm levels; most work was done by shovel, with finer cleaning with trowel and brush; deposits were screened through 1/4-inch screens. This continued nearly to the base of the dark humus soil zone, when the circular outline of the Feature 1 pit was clearly visible as a mixture of dark humus and yellowish sandy soil; this was at a depth of about 50 cm, or at a point within what is thought to be the main cultural layer containing bison remains in this portion of the site. Feature 1 and the buried zone, therefore, should be approximately the same age.

The Feature 1 pit was excavated, first removing the dark humus fill and exposing the tops of the bison bones. These were drawn, photographed (Fig. 8,d), and removed, thus exposing the underlying skeletal elements. These, in turn, were drawn and photographed in place and removed. The remainder of the pit was then excavated down into sterile soils. Soil beneath the bones was still the dark humus soil, but with a greater admixture with the lower yellowish sand; contents included a few bone scraps and some charcoal flecks. Pit outline, expecially in the lower portion, was irregular, while the upper portion above the bison bones appeared to be clearly circular, steep-sided, and with a basin-shaped bottom. That is, it almost appeared

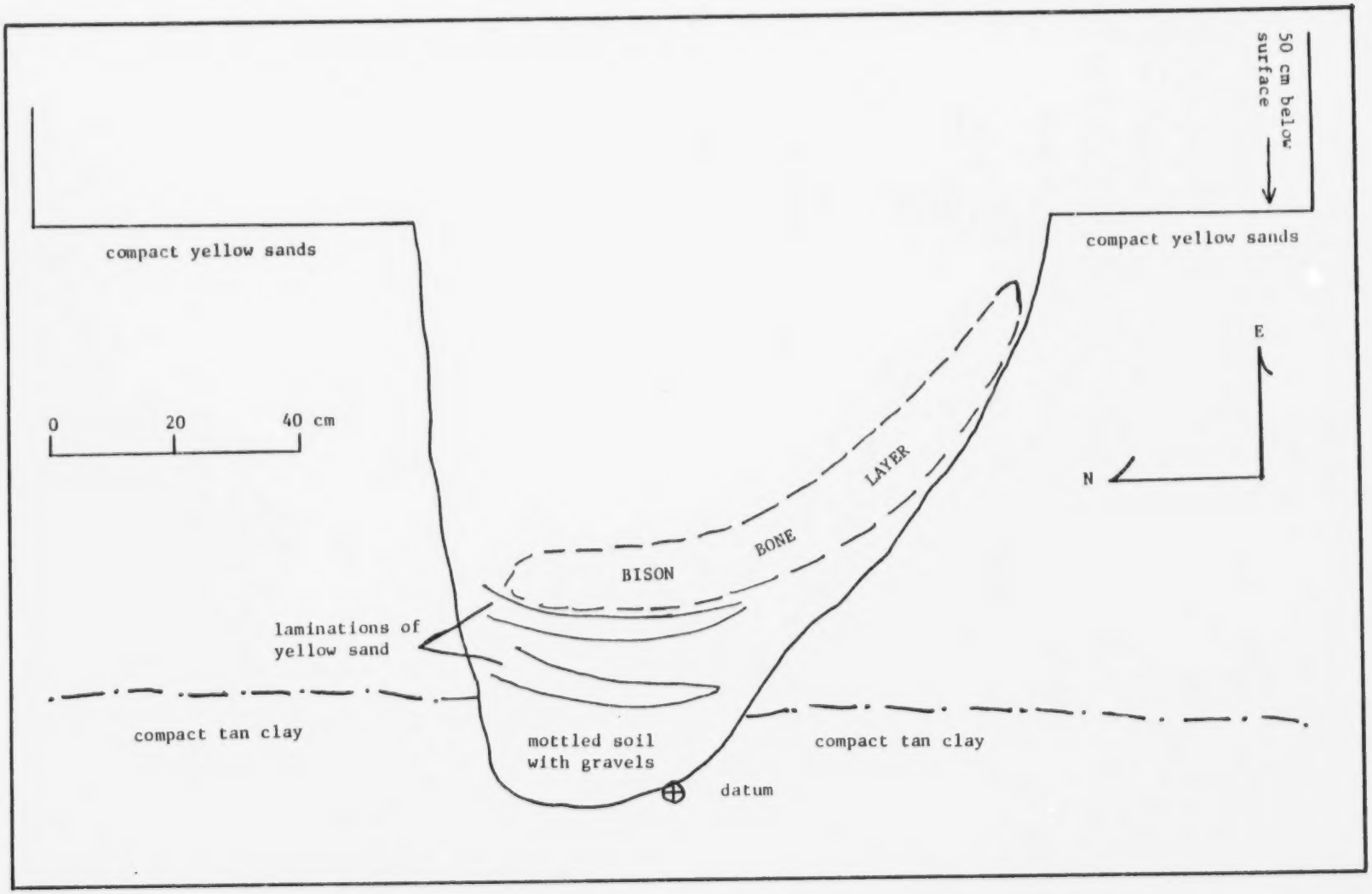

Fig. 5. Profile of Feature 1 (bison pit).

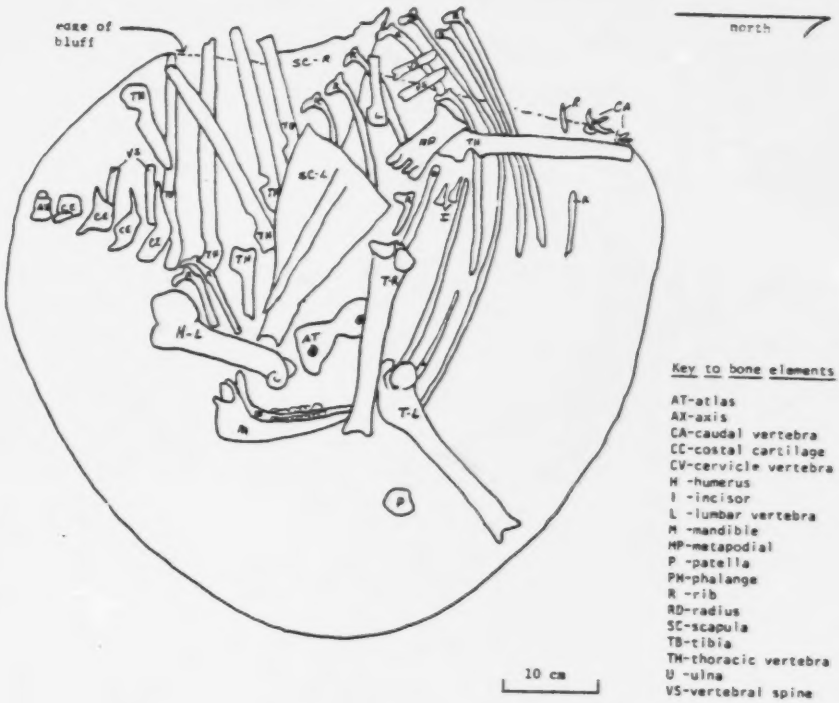

Fig. 6

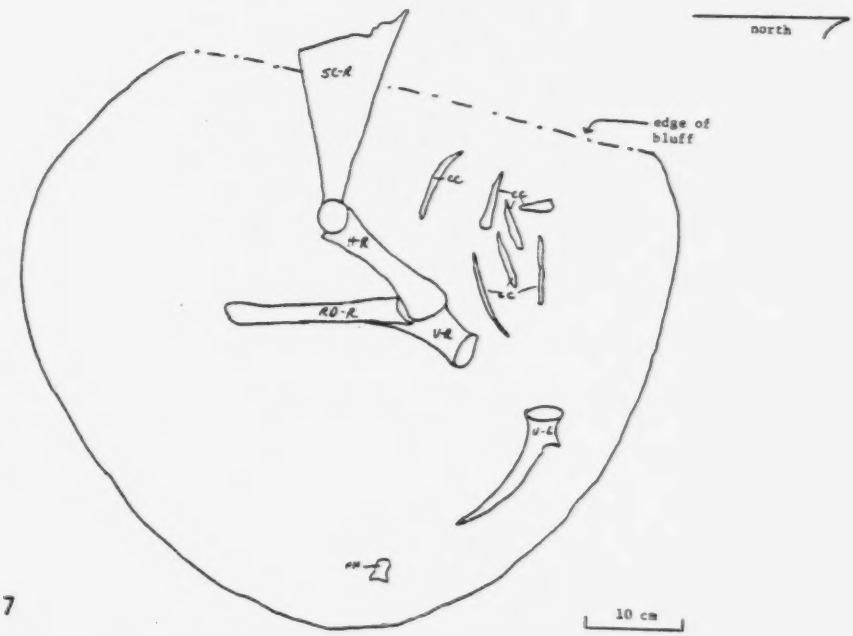

Fig. 7

Fig. 6. Feature 1 (bison pit), upper level. Fig. 7. Feature 1, lower level.

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Fig. 8. Views of site 39BK7. a (top), area of Test Pit 2 (looking NE from Feature 1). b (bottom), clearing western bank above Feature 1, Test Pit 1 (looking NNE).

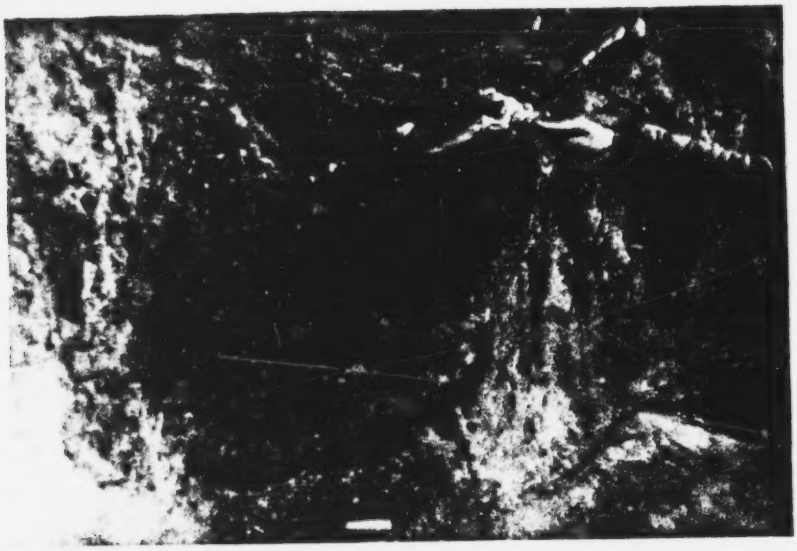

Fig. 9. Feature 1 during excavation. a (top), profile of exposed western bank after initial clearing of dark humus overburden cultural deposits. b (bottom), plan view of male bison bones after initial cleaning.

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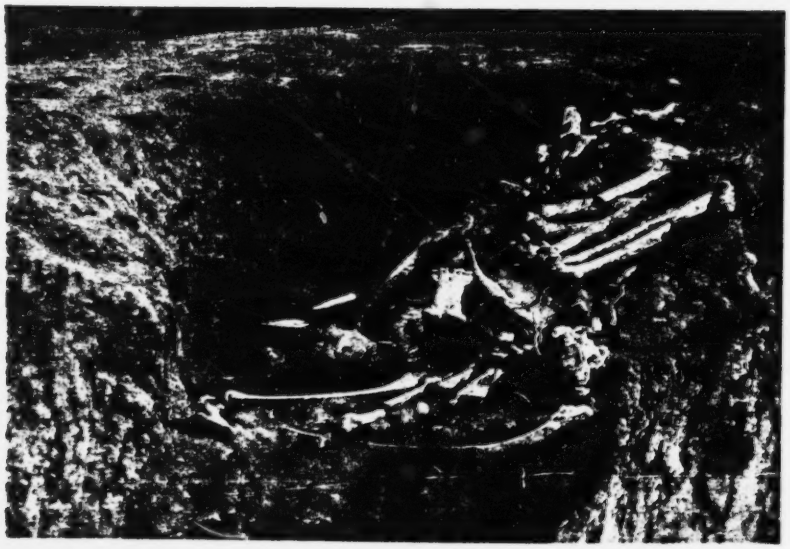

Fig. 10. Feature 1 during excavation. a, oblique view of exposed bones. b, detail of mandible arrangement.

that a pit about 4-5 ft in diameter and 2-3 ft deep (for placement of the bison remains) was dug into a previously partially filled irregular pit (perhaps of natural origin; about 2 ft deeper) containing some occupational trash.

The general appearance of the bone arrangement and general characteristics of the pit can be seen from the enclosed plan, profile, and photographs. The following series of observations is intended to provide the necessary detail on the skeletal remains and their placement.

The skeletal remains are those of a mature male bison lying on its right side. The existing skeleton is composed of the mandibles, atlas, axis, 5 cervicals, 11 thoracic vertebrae, 1 lumbar vertebra, 2 caudal vertebrae, 22 ribs with their respective costal cartilage, scapulae, humeri, 1 radius, 2 ulnae, 1 metacarpal, 2 carpals or tarsals, 1 first phalange, 1 third phalange, 2 tibiae, and 1 patella. Numerous pieces of bone scrap and rib fragments were located throughout the pit.

It appears that the skull and the maxillaries had eroded out of the bluff, for only two upper molars (loose) were found in the matrix. This would probably have meant that the skeleton was either partially disarticulated at the time of burial, or it was exposed for sufficient time to allow decay, disarticulation, and displacement of parts before eventual burial. The mandible (both sides) was located at the base of the feature beneath the distal end of the right tibia; five loose incisors were located in the matrix.

The atlas (located beneath the proximal end of the right tibia), one thoracic vertebra, and the two caudal vertebrae were disarticulated from the vertebral column. The articulated portion of the vertebral column consisted of the axis, the cervicals, 6 thoracic vertebrae, and nine ribs. The right

scapula, humerus, and radius-ulna were found articulated, as one would expect in a butchered situation. The left scapula and humerus were not articulated but were in close association with one another. The tibia, patella, and the greater trochantes of the femur were in the easternmost portion of the pit and were not articulated. One metapodial, one first phalange, and one third phalange were the only foot elements present; it is uncertain whether these are from a fore or hind leg.

The mandible, axis and left humerus showed carnivore damage, resulting in deep semi-parallel scars and bone flakes (that this damage is attributable to domestic canines is, of course, possible). Rodents further gnawed on bone flakes and other skeletal elements. No butchering or skinning marks attributable to human alteration were discernable on any bones in Feature 1.

There are several questions surrounding the interpretation of this feature, and indeed its assignment as cultural, or simply a natural deposition. When viewed in profile and when excavated from above, it appears, without much question, that the pit and its contents must be of human manufacture and use. The general arrangement of bones and the general appearance suggests, at least to the excavators, that the animal might represent a winter kill which was grossly butchered into large pieces and laid in a pit to freeze--it is a winter meat cache. Butchering marks would not necessarily be present, but their complete absence is extremely unusual. The direct association of the skeletal remains with cultural materials in the matrix is suggestive of cultural manipulation, and the charcoal and small bone fragments in the pit beneath the bones indicates that cultural deposits were present before the skeleton arrived in the pit. Cultural affiliation seems to be the most likely explanation, but this interpretation is not definite.

There are several questions surrounding the possible natural deposition of the animal. Indeed, the lack of butchering marks is odd if the animal was killed and purposefully placed in a pit for whatever reason. None of the bones were burned, suggesting that the feature was not a roasting pit. The irregular shape of the pit, at least in the lower portions, raises the question of whether this was a natural death, such as a single animal falling into a gully or arroyo head. Bone flakes found in the feature could have washed in from the upper cultural deposits.

Perhaps more puzzling is the lack of certain skeletal elements. Bones from the hind end are generally missing (though perhaps mostly eroded out of the bank); tibiae and some caudals are present, but femora and the pelvis are absent. Most foot and ankle bones are also missing. It is doubtful that the absence of all can easily be explained by erosion. However, if this were a natural death which carnivores quickly attacked, why were no the leg bones missing, assuming, as seems usual, that carnivores would remove articulated portions? The skull could have eroded away, but why are the mandibles undisturbed in the center of the feature?

Obviously, at this point, there can be no definitive answer. The excavators, however, believe that more evidence points to a winter meat cache in an existing pit, and the feature is therefore cultural and indicative of the potential for well preserved, buried features within this portion of the site.

ARCHEOLOGICAL CONTRIBUTIONS

The present work, including both the reported field work and the previous investigations, has shown what appears to be a large prehistoric village

(perhaps Great Oasis Phase or General Woodland Period) which existed on a low hill in the inter-lake area of the Oakwood Lakes region. Materials are diverse and appear to indicate rather extensive travel and perhaps more formal trade agreements with nonlocal or distant peoples. Pottery was generally simple and of a utilitarian nature. Lithic materials served utilitarian uses, and included a variety of hunting implements, butchering tools, hammers, scrapers (especially very small end scrapers), small thin notches, celts, larger chipped stone knives, and other forms. Houses were perhaps semi-subterranean earth lodge types, but none have yet been excavated at the site. Pits, as are so common in Great Oasis sites (Wilford ms.), are present here. One such pit is of questionable interpretation but may possibly be a winter meat cache in which a bison was grossly butchered and stored for later use. In general, the economy was strongly oriented toward bison, with secondary stress on deer, small mammals, large birds, and probably waterfowl, fish, and mussels. Religious practices of a mega-structural nature--that is, overtly communal--apparently were conducted here, as evidenced by the large earthen mound on the east side of the site.

The strongest archeological contribution of the project is to show that the site is of National Register quality and should be preserved for study by future generations with advanced techniques and more well-developed investigative theory. It is sometimes difficult for one to understand that contributions can be made by protection of the data in an undisturbed state. However, in this case, it is clear that more would be lost than gained if this site were to receive additional attention at this time. In-place preservation is preferred.

NATIONAL REGISTER EVALUATION

Archeological site 39BK7 is believed to be eligible for the National Register of Historic Places, according to recognized evaluative characteristics of significance (36CFR60.6). Following are information and evaluations pertinent to National Register criteria.

Horizontal Extent

The 1978 field work indicates that the site covers approximately 40 acres and is bounded by the low marshy areas and lakeshores surrounding the raised, hill-like flat area. Cultural materials are scattered over the entire area and are especially visible in animal burrowings, roadways, and test pits. Apparent clusterings of materials may be the product of restricted ground visibility rather than discrete clusterings by occupation or separate activity areas.

Vertical Extent

Test pits and cleaning of the exposed lakeshore bank clearly indicate that cultural materials are present throughout the 2 ft (50 cm) of dark brown-black humus soil overlying a basal sterile yellowish sand-clay zone. Numerous artifacts reportedly have been collected from the surface of the site, and several other materials were noted during the field inspection. Animal burrowing, however, is greatly attributable to the density of cultural materials on the surface. Test pits and profile cleaning all showed cultural material to be most concentrated about 40-50 cm deep, in the lower part of the thick humus surface zone. Bones, flakes, and other materials were additionally

scattered throughout the upper levels, but possibly mostly by animal disturbance. The great quantity of materials previously collected from the site would argue for an additional concentration--that is, remains of an occupation--near what is now the present surface. In other words, it appears that more than one occupational zone may be represented within the vertical extent of the site.

Integrity

The site is relatively undisturbed, and integrity is believed to be good. Disturbance has, however, resulted from several causes and should be kept in mind during future management and additional explorations:

1. It is obvious from the dissected nature of Feature 1 and the exposed shoreline bank that in the last several hundred years the western portion of the site has eroded into the lake. How much has been destroyed by erosion is unknown.
2. Small rodent burrowing is extensive over the entire site and has resulted in considerable displacement of cultural materials.
3. Recreational cabins, and apparently older farm houses, used to occupy the site. This would presumably cause considerable surface disturbance and might disturb subsurface deposits around possible foundation posts and excavated pits (storage, trash, recreational, etc.).
4. The mound on the east side of the site has been cut into during road work. The main, central portion, however, appears to be reasonably intact. Extensive excavations would be necessary to fully evaluate the integrity of this feature.

5. During road work several years ago, bulldozer cuts and intensive stripping were done on the south, southwest, and northwest sides of the mound, thus removing some cultural deposits and disturbing others. Careful examination of the area, however, suggests that many of the western deposits associated with the mound may still be reasonably intact.
6. The area has been extensively and intensively surface collected by relic hunters and amateur archeologists. Surface integrity has been essentially destroyed, if indeed there was significant material from a separate occupation there. It is believed that there may have been, but evidence necessary to evaluate is now limited to subsurface deposits, materials, and features.

Horizontal Complexity

The site consists of a large area of cultural debris from one or more occupations during one or more periods. Aboriginal, early (?) historic materials from farmsteads, and more recent materials from recreational cabins and contemporary campers trash are scattered about the site in what appear to be concentrations with definable boundaries. Bones, sherds, flakes, and other prehistoric materials are most evident in animal burrowings but appear to occur in certain areas more than in others. This would argue for identifiable activity areas, village activity patterning, (e.g., formal dump areas), or definable village structuring (e.g., house placement). In addition, collector Kenneth Hammer and archeologist Adrian Hannus have reported that at various times during the year grass color changes and slightly depressed areas are recognizable, indicating the locations of earthlodges or the remains

of other forms of aboriginal structures. These structures were not verified, since they are outside the project's impact area. The existence of Feature 1 shows that occupational features relating to subsistence (and perhaps other) activities are scattered about the site. In addition, the presence of the large mound in the eastern part of the site indicates a more complex village pattern than a simple hamlet or scattering of trash in discrete clusterings. There is, therefore, ample evidence of considerable horizontal complexity within what is thought of as a prehistoric village (with at least one occupation in at least one time period), with additional, later historic period and contemporary reuse.

Vertical Complexity

The cultural deposits at the site are about 2 ft (50 cm) thick and contain numerous materials from previous occupations, particularly dating from prehistoric times. Test pits and exposed profile cleaning indicate that at least one definable buried cultural zone is present, and additional buried materials may be attributable to additional, as yet undefined cultural strata. The buried Feature 1 and buried clusters of burned rocks and bone concentrations are examples of buried cultural features. In addition, there is adequate vertical deposition for the preservation of buried features from any one period.

Quantitative Complexity

Faunal remains (especially bison and deer bones) are numerous across most of the site, indicating extensive areal use. Lithic debris is not so abundant as might be expected, undoubtedly due to previous intensive collection

by local citizens interested in the artifacts, but there still exists sufficient quantity to indicate that the entire area was used. Pottery and other materials appear to be fairly sparse, but their mere presence is noteworthy. The large quantity of artifacts reported by local collectors indicates the quantitative potential of the site. Subsurface testing in 1978 substantiated the presence of amounts of materials adequate for rather large collections and intensive analyses.

Qualitative Complexity

Cultural materials on and from the site are quite diverse and indicate several nonlocal sources, particularly various cherts and quartzites. Many functional differences are also suggested such as tools used for weaponry, butchering, hide processing, vegetal acquisition or processing, faunal preparation, cooking, etc. Artifact classes and types reported from the site are also extremely diverse. Faunal remains appear to be mainly bison, but other species are also well represented; it appears that not all skeletal parts are represented. Cultural materials are not restricted to a single period, or even necessarily a single occupation within any one period represented at the site.

Representative of Broad Patterns of the Regional History

The site appears to be a good example of late prehistoric Plains Indian lifeways at a time before European influence. This particular portion of the Late Period is poorly known, and this site appears to be a rather large village representative of this period. In addition, there appears to be considerable

material from the Historic Period of the region, which may be worthy of additional attention.

Representative Example of a Site Type or Period

The site appears to be a fairly good example of a large lakeshore village. More importantly, it may be one of the few remaining, nearly intact villages in this area and dating from this period. This aspect of uniqueness would argue strongly that the site be preserved for future study and interpretation.

Potential to Contribute Additional Useful Information

Aside from site-specific data, the site potentially contains important regional interpretive information on prehistoric settlement patterning, seasonality information on cultural use of the area, site or regional function, lakeside site use, prehistoric subsistence systems, probably information on the economy, age of the use of the area by past peoples, various data on technology, perhaps information on group size and composition, details on trade (i.e., intergroup contact and relationships), and perhaps other subjects. Non-cultural information uniquely contained here, such as dated paleoclimatic information and dated geological data, may be important to studies in other fields. Probably the most obvious information to be obtained in future work would be the age of the occupations, the kind of lifeways or subsistence orientation, the presence or absence of cultigens and which were present, and information on nonlocal goods present in the area. The possibility for the presence of existing structures at this site seems good,

which might contribute additional useful information on the lifeways and organization of past peoples in the area.

National Register Eligibility

The site appears to be eligible for the National Register on a number of points. Particularly important are its complexity, integrity, representativeness, uniqueness, and great potential to contribute additional scientific data in a number of different fields.

PROPOSED CONSTRUCTION

The Environmental Protection Agency has reported that the Oakwood Lakes Bank Shoreline Protection Project will modify through stabilization a portion of the west bank of Lake Tetonkaha. This is to be a portion of exposed dirt bank, or bluff, approximately 700 ft long and lying adjacent to an existing vehicle trail on the west edge of site 39BK7. This 20-30 ft high bank is to be cut back horizontally (east) about 50 ft from its present position, and vertically at least 10 ft, for about 700 ft in a north-south direction. This will be done to create a more sloping, less erosion prone shoreline and therefore prevent further bank deterioration by wave action and other erosional processes. Rip-rap, a layer of boulders, and perhaps other materials will be placed on the bank, and perhaps in the lake in front of the shoreline to a height sufficient to "break" the waves before they reach the shoreline. The proposed disturbance is estimated to encompass a zone about 30-50 ft wide.

PROPOSED IMPACT

The direct impact on archeological site 39BK7 will be total destruction of culture-bearing deposits in the 30 x 700 ft area along the exposed shoreline bank. Additional intensive disturbance by heavy equipment transit, turning, and storage will undoubtedly be considerable also. Additional related impact may be expected as subsurface vandalism or intensive collection of artifacts by construction personnel and local collectors occurs during construction.

The western edge of the site appears to be an area of fairly intensive prehistoric use, judging by the numerous bones, burned rocks, and other materials in the exposed profile bank, the Feature 1 pit with articulated bison bones, and the materials found in test pits and animal burrowings in the immediate area. Undisturbed lodge depressions are also thought to be nearby. The deposits here are about 2 ft (50 cm) thick, and it is expected that much of the cultural evidence in these deposits will be intensively disturbed--that is, destroyed--during construction. It is, however, estimated that the construction area is on the margin of what appears to be the main site area, and that construction will not significantly affect the main site area or the potential importance of the site as a whole if limited to its presently projected area of impact.

PROPOSED MITIGATION OF IMPACT

The proposed Bank Stabilization Project has been shown to be within the boundaries of an important archeological site believed to be eligible for the National Register. If the site is determined ineligible for the National

Register, probably no further work will be required. If the site is indeed found to be eligible for the National Register, then the determination of effect and the most desirable means to mitigate impact on the site must be done following the National Historic Preservation Act of 1966, Section 106 procedure, which calls for a cooperative determination by the Environmental Protection Agency, the Advisory Council, and the State Historic Preservation Officer (and usually the Interagency Archeological Service as consultants). The following statements are offered as suggestions to be considered, in the event that the 106 procedures are necessary.

It is recommended that construction, as it is presently understood, will not greatly, adversely affect this large site, believed to be of National Register quality. It is recommended that construction be allowed to proceed with the following stipulations:

1. Disturbance should be limited to the lake shore and an area about 30 ft east of the shoreline. Other areas of the site should be avoided and left undisturbed.
2. Before construction begins, archeological work of an exploratory nature should be undertaken in the direct impact zone to locate and preserve any cultural features which will be potentially affected by construction. All work should be under the direction of a qualified archeologist. It is expected that few, if any, features will be found in this area, and if any do occur, they will probably be of minimal complexity (e.g., fire pits) and will require minimal time to fully record.
   a. The surface of the direct impact area should be bladed (with road grader or similar equipment) to remove the grass zone and expose subsurface deposits to such an extent that horizontal cultural features may be recognized.

b. Short backhoe trenches (or the equivalent)should be excavated into sterile basal strata (yellow sands and clays, about 2 ft deep) to additionally test for buried cultural features. Trenches should begin at the bluff and extend back (east) about 30-50 ft (depending on the width of the direct impact zone); they should be placed about 25-30 ft apart, for the entire area to be disturbed by construction.

c. Should any features be found, they should be carefully and fully excavated by hand, recorded, and analyzed according to acceptable archeological techniques.

d. During this exploratory field work, and as part of the mitigation of impact and preservation of the affected data, it is recommended that the following samples be taken in the direct impact zone and submitted for analysis:

   (1) soils samples for pollen analysis, to determine paleo-climatic information affecting the village and useful to studies in other disciplines,

   (2) burned rock, bones, teeth, pottery, and charcoal for thermoluminescence (TL) and radiocarbon (C14) analyses, to determine the age of the site and use of the area.

e. Following analysis of the materials and the results of special studies, a detailed report on the findings, analyses, and archeological contributions should be prepared and submitted to the South Dakota State Historic Preservation Officer (SHPO). Recovered materials should be stored in a curation facility acceptable to the SHPO.

3. During construction, all activities should be monitored by a qualified archeologist with at least one assistant.

The expected time for the exploratory work and direct mitigation on exposed cultural features is expected to require 2-3 field days, barring the discovery of any unusually complicated features. Even so, operations should not exceed seven work days. Final analysis and preparation of a detailed report on the work should take an estimated 5-15 laboratory days.

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